

### Remarks

By this amendment, the specification has been amended to refer to prior related applications.

Claims 1-6 were pending in this application. Claims 1, 2, 3, 4, and 6 have been amended. Claims 1 and 3 have been amended to recite a “DRO2 polypeptide comprising an amino acid sequence having at least 95% sequence identity to the amino acid sequence of SEQ ID NO:2.” Support for this amendment may be found throughout the specification, for example, on page 9, lines 20-23. Claim 3 has been amended to replace the term “progenitor” with “plant”. Support for this amendment may be found throughout the specification, for example, on page 6, lines 31-33. Claims 3 and 4 have been amended to recite “as compared to a non-modified plant”. Support for this language may be found throughout the specification, for example, on page 6, lines 3-5, and on page 5, lines 7-10. Claim 6 has been amended to recite that the plant part is a recombinant plant part. Support for this amendment may be found throughout the specification, for example, on page 4, lines 31-33.

New claims 7-11 have been added. New claim 7 is similar to pending claim 3 and new claim 8 is similar to pending claim 4. New claim 9 is directed to a transgenic plant produced by the method of new claim 7. New claims 10 and 11 are similar to pending claims 2 and 6. Support for these new claims may be found in the original claims, and throughout the specification.

No new matter is introduced by the foregoing amendments and new claims. Applicants expressly reserve the right to pursue subject matter removed from the current claims by amendment in a later application. After entry of this amendment, **claims 1-11 are pending in this application**. Consideration and allowance of the pending claims is requested.

### Rejections under 35 U.S.C. §101:

Claim 6 has been rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. Applicants respectfully traverse this rejection, but have amended Claim 6 to recite that the plant part is a recombinant plant part. The amended claim is clearly directed to statutory subject matter, and Applicants request that the rejection be withdrawn.

Rejections under 35 U.S.C. §112, second paragraph:

Claims 1-6 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Applicants respectfully traverse this rejection.

The Office action states that in claims 1-3, the metes and bounds of “ortholog” are unclear. Claims 1-3 have been amended to remove this term. Therefore, this rejection should be withdrawn.

The Office action states that it is unclear how progenitor cells in Claim 3 differ from other plant cells. Applicants believe that this language is clear, but in the interests of further prosecution have amended Claim 3 to replace the term “progenitor” with the term “plant”. Applicants believe that the claim as amended obviates the rejection. Therefore, this rejection should be withdrawn.

The Office action states that in Claim 3, the term “increased” is a relative term lacking a comparative basis. Similarly, the Office action states that in Claim 4, the term “over-expressed” is a relative term lacking a comparative basis. Claims 3 and 4 have been amended to recite “as compared to a non-modified plant”. Therefore, the terms have a comparative basis, and the rejections should be withdrawn as to both claims.

Rejections under 35 U.S.C. §112, first paragraph:

Claims 1-6 have been rejected under 35 U.S.C. §112, first paragraph, as allegedly not being enabled. Applicants respectfully traverse this rejection.

The Office action states that the specification, “while being enabling for SEQ ID NO: 2, does not reasonably provide enablement for orthologs(s) of DRO2” (page 3, section 5). Claims 1 and 3 have been amended to remove the term “ortholog” and are currently directed to a “transgenic plant comprising a plant transformation vector comprising a nucleotide sequence that encodes or is complementary to a sequence that encodes a DRO2 polypeptide comprising an amino acid sequence having at least 95% sequence identity to the amino acid sequence of SEQ ID NO: 2.” As one of skill in the art would understand how to make and use a polypeptide sequence having at least 95% identity to SEQ ID NO:2 based on the teachings in the current specification, Applicants contend that the amended claims are fully enabled.

The Office action states that “[u]ndue experimentation would be required by a skilled artisan to produce transgenic plant with increased drought tolerance comprising over-expression of nucleotide sequence encoding a polypeptide that is not 100% identical to SEQ ID NO:2, except for differences due to genetic code degeneracy” (page 5). Applicants disagree with this statement, as it could potentially be applied to the amended claims.

The Federal Circuit has repeatedly stated that enablement is not precluded by the necessity for some experimentation, so long as the experimentation is not undue. *In re Wands* 8 USPQ2d 1400 (Fed Cir 1988). In addition, a considerable amount of experimentation is permissible, if it is merely routine, or if the specification provides a reasonable amount of guidance in which the experimentation should proceed. *Id.*

Applicants’ specification provides the guidance necessary to make and use the sequences encompassed in the claims. The specification describes how to determine which sequences have at least 95% sequence identity to SEQ ID NO:2. See, for example, page 10, lines 3-15. Methods are provided for determining which residues are highly conserved. See, for example, page 12, lines 4-6. In addition, description of the conserved Dof DNA-binding domain is provided, including the consensus sequence for a zinc finger domain. See, for example, page 19, lines 13-16. Methods describing how to make polypeptide variants are disclosed. See, for example, page 13, lines 3-9. Furthermore, methods are provided for the generation of transgenic plants, and for determining if a plant (particularly a transgenic plant) is drought tolerant. See, for example, Example 1 on pages 17-18. Therefore, undue experimentation is not required to make and use a nucleotide sequence that encodes a polypeptide sequence that has at least 95% sequence identity with SEQ ID NO:2, and that conveys increased drought tolerance on a plant transformed therewith. What is required is the identification or generation of a sequence that has at least 95% sequence identity to that of SEQ ID NO:2, transformation of a plant with a vector comprising the sequence, growing the transformed plant, and determining if the plant is drought tolerant. As these methods are described in the specification, and well known in the art, they do not require undue experimentation.

As amended claims 1-6 are fully enabled by the specification, Applicants request that the rejection under 35 U.S.C. §112, first paragraph, be withdrawn.

Claims 1-6 have been rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. Applicants respectfully traverse this rejection.

Claims 1 and 3 have been amended to remove the term “ortholog” and are currently directed to a “transgenic plant comprising a plant transformation vector comprising a nucleotide sequence that encodes or is complementary to a sequence that encodes a DRO2 polypeptide comprising an amino acid sequence having at least 95% sequence identity to the amino acid sequence of SEQ ID NO:2.” This amendment obviates the current rejection for lack of sufficient written description, and therefore Applicants request that this rejection be withdrawn.

Applicants provide the following comments regarding the potential application of the alleged lack of disclosure of a representative number of species (as included in the current Office action with regard to orthologs), in case this rejection might later be applied to the amended claims. The Office action states (with regard to orthologs) that “there are insufficient relevant identifying characteristics to allow one skilled in the art to predictably determine such mutants and allelic variants of other plants, or the structure of DRO2 proteins from other plants and organisms, absent further guidance.” Applicants point out that the recitation of at least 95% sequence identity provides a very predictable structure for the sequences encompassed by the claims.

The Office is reminded that the description of a representative number of species does not require the description to be of such specificity that it would provide individual support for each species that the genus embraces. Guidelines for Examination of Patent Applications under the 35 U.S.C. § 112, ¶ 1, “Written Description” Requirement 66 Fed. Reg. 1099, 1106 (2001). Satisfactory disclosure of a “representative number” depends on whether one of skill in the art would recognize that Applicants were in possession of the necessary common attributes or features of the elements possessed by the members of the genus in view of the species disclosed. *Id.* Applicants submit that the knowledge and level of skill in the art would allow a person of ordinary skill to envision the claimed invention, *i.e.*, a sequence having at least 95% sequence identity to the sequence set forth in SEQ ID NO:2. Therefore, the pending claims are sufficiently described by the specification.

In light of the above, Applicants request that the rejection under 35 U.S.C. §112, first paragraph, be withdrawn.

Rejections under 35 U.S.C. §102(b)

Claims 1-6 have been rejected under 35 U.S.C. §102(b), as allegedly anticipated by Alvim *et al.* (*Plant Physiol.* (2001) 126:1042-1054). Applicants respectfully traverse this rejection.

Claims 1 and 3 have been amended to remove the term ortholog. They are currently directed to a “transgenic plant comprising a plant transformation vector comprising a nucleotide sequence that encodes or is complementary to a sequence that encodes a DRO2 polypeptide comprising an amino acid sequence having at least 95% sequence identity to the amino acid sequence of SEQ ID NO:2.” The Office action states that orthologs read on any protein capable of producing a drought tolerance phenotype when transformed into a plant cell to produce a transgenic plant. As the claims are no longer directed to an ortholog of DRO2, the rejection is obviated. The current claims are not anticipated by Alvim *et al.*, who teach a transgenic plant of tobacco and a method of producing it by over-expressing BiP. The BiP sequence used by Alvim *et al.* is not at least 95% identical to SEQ ID NO:2 (DRO2).

As Alvim *et al.* does not anticipate the current claims, Applicants request that the rejection under 35 U.S.C. §102(b) be withdrawn.

New Claims

Applicants submit herewith new Claims 7-11. These claims are similar in language to various of claims 1-6 (as discussed above), but refer specifically to SEQ ID NO:2. The Office indicates that claims specifying SEQ ID NO:2 are enabled (Office action at page 3, paragraph 5) and supported by the written description in the specification (Office action at page 6, last paragraph). It is believed that Claims 7-11 are therefore allowable as written, and Applicants request notice of this in the next action.

**Conclusion**

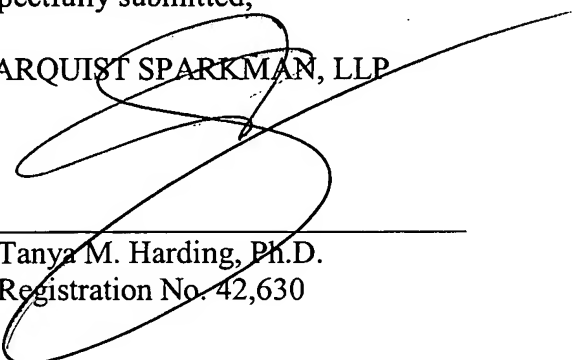
Applicants respectfully submit that the claims submitted herewith are in condition for allowance. If any issues impede the issuance of a notice of allowance, the Examiner is requested to contact the undersigned prior to the mailing of a next substantive Office action in order to arrange a telephone interview. It is believed that a brief discussion of the merits of the present application may expedite prosecution and allowance of the claims.

Respectfully submitted,

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